Special Issue

Advances in Air Pollution Data Analysis: From Classical Geostatistics to Big Data and Artificial Intelligence

Message from the Guest Editors

We invite researchers and practitioners to contribute to this Special Issue focusing on the evolving landscape of air pollution data analysis, bridging traditional geostatistics with groundbreaking advancements in big data and artificial intelligence (AI) topics including, but not limited to, the following: Applications of geostatistics for spatial and temporal modeling of air quality;
Big data techniques for managing and analyzing large-scale pollution datasets;
AI and machine learning models for predictive analysis, anomaly detection, and source apportionment;
Integrating heterogeneous data sources (satellite, sensor, and citizen science) for comprehensive air quality assessments;
Uncertainty quantification, explainable AI, and ethical considerations in air pollution analysis;
Real-time applications in pollution forecasting, urban planning, and policymaking.
By submitting to this Special Issue, you will showcase your research at the forefront of this dynamic field, contributing to innovative solutions for global air quality management. Together, let us push the boundaries of air pollution science and technology.

Guest Editors

Dr. Mateusz Zareba

Dr. Elżbieta Węglińska

Prof. Dr. Yunhua Chang

Deadline for manuscript submissions

31 December 2025

Atmosphere

an Open Access Journal by MDPI

Impact Factor 2.3
CiteScore 4.9

mdpi.com/si/239511

Atmosphere
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
atmosphere@mdpi.com

mdpi.com/journal/atmosphere

Atmosphere

an Open Access Journal by MDPI

Impact Factor 2.3
CiteScore 4.9

mdpi.com/journal/atmosphere

MDPI

About the Journal

Message from the Editor-in-Chief

Continued developments in instrumentation and modeling have driven atmospheric science to become increasingly more complex with a deeper understanding of concepts, mechanisms, and interactions. This is the field that innovation built and it has led to a better appreciation for the complexity with atmosphere. Human life is intertwined in this complexity as we strive to better understand our atmosphere. Climate change is constantly stretching the limits of our thinking and forcing new ideas and concepts to be played out. Welcome to the Anthropocene!

Editor-in-Chief

Dr. Daniele Contini
Institute of Atmospheric Sciences and Climate (ISAC), National Research Council (CNR), Str. Prv. Lecce-Monteroni km 1.2, 73100 Lecce, Italy

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), Ei Compendex, GEOBASE, GeoRef, Inspec, CAPlus / SciFinder, Astrophysics Data System, and other databases.

Journal Rank:

CiteScore - Q2 (Environmental Science (miscellaneous))